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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,164	01/25/2002	Steve Holmgren	003399.P089	4068

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EXAMINER

BETIT, JACOB F

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

10/058,164

Applicant(s)

HOLMGREN, STEVE

Examiner

Jacob F. Betit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17, 20-24, 27 and 35-51 is/are allowed.
- 6) ☒ Claim(s) 18, 19, 25, 26 and 28-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**SAM RIMELL**  
**PRIMARY EXAMINER**

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The arrangement of the disclosed application does not conform with 37 CFR 1.77(b).

Section headings are underlined throughout the disclosed specification and the title does not appear in upper case lettering. Section headings should not be underlined, and the title should appear in upper case lettering. Appropriate corrections are required according to the guidelines provided below:

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.

- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 18-19, 25-26, and 28-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 18, in line 1, and claim 25, in line 1, recite the limitation "the at least two deadlock threshold levels". There is insufficient antecedent basis for this limitation in the claim. These claims should be amended to replace "the at least two deadlock threshold levels" with --the plurality of deadlock threshold levels--.

6. Claim 18, in line 2; claim 25, in line 2; and claim 31, in line 2 recite the limitation "a maximum allowed deadlocks". This limitation is unclear because it appears to be missing the words "number of" after the word "allowed". These claims should be amended to replace "a maximum allowed deadlocks" with --a maximum allowed number of deadlocks--.

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7. The term "conservatively" in claims 19, 26, and 34 is a relative term which renders the claims indefinite. The term "conservatively" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The claim language is indefinite because it is unclear from reading the claim to what degree the database is being locked.

8. Claim 19, in lines 2-3; claim 26, in lines 2-3; and claim 31, in lines 2-3 recite the limitation "represents a number of deadlocks occurred". This limitation is unclear because it appears to be missing the pronoun "that" after the word "deadlocks". These claims should be amended to replace "represents a number of deadlocks occurred" with --represents a number of deadlocks that occurred--.

9. Claim 19, in lines 3-4, and claim 26, in lines 3-4, recite the limitation "the maximum allowed deadlocks". This limitation is unclear because it appears to be missing the words "number of" after the word "allowed". These claims should be amended to replace "the maximum allowed deadlocks" with --the maximum allowed number of deadlocks--.

10. Claim 28 recites the limitation "comparing a number of deadlocks corresponding to the data locality occurred in a predetermined period of time", in lines 5-6, and the limitation "to lock the database based the data locking level", in line 7. These limitations are unclear because the first limitation appears to be missing the pronoun "that" after the word locality and the second

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limitation appears to be missing the preposition "on" after the word based. An acceptable form for this claim would be:

--An apparatus for improving database concurrency comprising:

a data locator to determine a user-requested data locality within a database utilizing unique data keys;

a deadlock analysis module to determine a data locking level by comparing a number of deadlocks corresponding to the data locality that occurred in a predetermined period of time to a deadlock threshold level and to lock the database based on the data locking level.--

11. Claims 29-34 are rejected because they are dependant on independent claim 28.

***Allowable Subject Matter***

12. Claims 1-17, 20-24, 27, 35-51 are allowed.

13. Claims 18-19, 25-26, and 29-34 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. Claim 28 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

15. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, Hirota et al. (U.S. patent No. 4,791,554); Gerdt et al. (U.S. patent No. 6,336,164 B1); Rick Anderson, "RMU Show Statistic DBA Handbook"; "Spotlight on Sybase ASE, Visual Root-Cause Diagnostics and Resolution for Sybase"; Szotin, "Lock Manager for .Net"; and Ed Woods, "OMEGAMONN II for DB2 Lock History Considerations", does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

determining a data locking level based on a deadlock history corresponding to the data locality; and

providing access to the data while locking part of the database based on the data locking level, as claimed in claim 1.

The prior art of record, Hirota et al. (U.S. patent No. 4,791,554); Gerdt et al. (U.S. patent No. 6,336,164 B1); Rick Anderson, "RMU Show Statistic DBA Handbook"; "Spotlight on Sybase ASE, Visual Root-Cause Diagnostics and Resolution for Sybase"; Szotin, "Lock Manager for .Net"; and Ed Woods, "OMEGAMONN II for DB2 Lock History Considerations", does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

comparing a deadlock history corresponding to the data locality to a plurality of deadlock threshold levels;

determining a data locking level based on a result of the comparing; and

locking the database based on the data locking level, as claimed in claims 15 and 21.

The prior art of record, Hirota et al. (U.S. patent No. 4,791,554); Gerdt et al. (U.S. patent No. 6,336,164 B1); Rick Anderson, "RMU Show Statistic DBA Handbook"; "Spotlight on Sybase ASE, Visual Root-Cause Diagnostics and Resolution for Sybase"; Szotin, "Lock Manager for .Net"; and Ed Woods, "OMEGAMONN II for DB2 Lock History Considerations", does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

a deadlock analysis module to determine a data locking level by comparing a number of deadlocks corresponding to the data locality that occurred in a predetermined period of time to a deadlock threshold level and to lock the database based on the data locking level, as claimed in claim 28.

The prior art of record, Hirota et al. (U.S. patent No. 4,791,554); Gerdt et al. (U.S. patent No. 6,336,164 B1); Rick Anderson, "RMU Show Statistic DBA Handbook"; "Spotlight on Sybase ASE, Visual Root-Cause Diagnostics and Resolution for Sybase"; Szotin, "Lock Manager for .Net"; and Ed Woods, "OMEGAMONN II for DB2 Lock History Considerations", does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

means for determining a data locking level based on a deadlock history corresponding to the data locality; and

means for providing access to the data while locking part of the database based on the data locking level, as claimed in claim 35.



The prior art of record, Hirota et al. (U.S. patent No. 4,791,554); Gerdt et al. (U.S. patent No. 6,336,164 B1); Rick Anderson, "RMU Show Statistic DBA Handbook"; "Spotlight on Sybase ASE, Visual Root-Cause Diagnostics and Resolution for Sybase"; Szotin, "Lock Manager for .Net"; and Ed Woods, "OMEGAMONN II for DB2 Lock History Considerations", does not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

determining a data locking level based on a deadlock history corresponding to the data locality; and

providing access to the data while locking part of the database based on the data locking level, as claimed in claim 44.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. patent No. 4,791,554 to Hirota et al. for teaching preventing deadlock in a database management system (see abstract).

U.S. patent No. 6,336,164 B1 to Gerdt et al. for teaching preventing deadlock in a log structured array (see abstract).

Rick Anderson, "RMU Show Statistic DBA Handbook", 12/15/1998, Oracle Corporation, Second Edition, for teaching troubleshooting code using deadlock histories and the deadlock history screen (see pages 119-121).

"Spotlight on Sybase ASE, Visual Root-Cause Diagnostics and Resolution for Sybase", 2003, Quest Software, for teaching deadlock history (see page 2).

Szotin, "Lock Manager for .Net", 08/12/2003, [www.thecodeproject.com](http://www.thecodeproject.com), for teaching using a LockManager to provide a solution to resolving deadlocks at runtime (see pages 1-2).

Ed Woods, "OMEGAMONN II for DB2 Lock History Considerations", 08/03/04, [www.candle.com](http://www.candle.com), for teaching the deadlock monitoring abilities of OMEGAMON II (see pages 1-4).

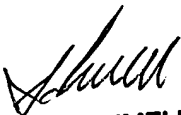
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob F. Betit whose telephone number is (703) 305-3735. The examiner can normally be reached on Monday through Friday 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (703) 305-3830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jfb  
3 Aug 2004

  
**SAM RIMELL**  
**PRIMARY EXAMINER**